Appendix I. Kings Beach Commercial Core Improvement Project Preliminary Delineation of Wetlands and Other Waters of the United States and USACE Verification Letter

Kings Beach Commercial Core Improvement Project

Preliminary Delineation of Wetlands and Other Waters of the United States

Placer County, California
03-PLA-28 KP 14.79/16.53 (PM 9.19/10.27)
EA 03-198-0C9300

November 2006

Table of Contents

List of Tables and Figures

List of Abbreviated Terms

Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
GPS	global positioning system
OHWM	ordinary high water mark
SR	State Route
USGS	U.S. Geological Survey

Preliminary Delineation of Wetlands and Other Waters of the United States

1. Summary

This report presents the results of a delineation of wetlands and other waters of the United States conducted for the Kings Beach Commercial Core Improvement Project study area in Kings Beach, California. On September 19 and 20, 2006, a Jones & Stokes botanist/wetland ecologist and a soil scientist delineated wetlands and other waters of the United States in the delineation study area to assist the Placer County Department of Public Works in determining the location and extent of areas that likely would be subject to regulation by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act (CWA). The delineation was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and in compliance with the Sacramento District of the Corps' Minimum Standards for Acceptance of Preliminary Wetland Delineations (U.S. Army Corps of Engineers 2001). A total of 0.329 acre of jurisdictional wetlands and 0.390 acre of other waters of the United States were delineated, for a grand total of 0.719 acre of waters of the United States in the delineation study area. Eleven intermittent drainage ditches were observed within the delineation study area but were interpreted to be outside the scope of Corps jurisdiction under Section 404 because they appear to have been excavated in uplands for the purpose of drainage and do not appear to have replaced any previously existing natural stream features. All jurisdictional boundaries and determinations presented in this report are preliminary and subject to verification by the Corps' Sacramento District.

1.1. Contact Information

Project Proponent
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Pioneer Commerce Center, 10825 Pioneer Trail, Suite 105
Truckee, CA 96161
Office: 530/581-6231 (Dan LaPlante)
Fax: 530/581-6239
Contact: Dan LaPlante or Ken Grehm (530/889-7615)

Delineator
Jones & Stokes
2600 V Street
Sacramento, CA 95818
Office: 916/737-3000
Fax: 916/737-3030
Contact: Scott Frazier (ext. 3110)

2. Site Description and Location

The delineation study area is located in eastern Placer County on the north shore of Lake Tahoe (Figure 1). It encompasses approximately 74.78 acres of residential and commercial parcels located adjacent to State Route (SR) 28 in Kings Beach (Figure 1). A list of the parcels in the study area is provided in Table 1.

The study area appears on the U.S. Geological Survey (USGS) 7.5-minute Kings Beach quadrangle in the SE ¼ of Section 13, Township 16 North, Range 17 East, and portions of the West ½ of Section 19, Township 16 North, Range 18 East, Mount Diablo Base and Meridian (Figure 1). The latitude and longitude for the approximate center of the project site are 39°14'00" north and 120°01'00" west. Slope gradients at the project site generally range from 0% to 5%, and elevations range from approximately 6,250 to 6,400 feet above mean sea level. To reach the project site from Sacramento, travel east on Interstate 80 and take SR 267 south to its junction with SR 28.

2.1. Precipitation and Growing Season

The closest National Weather Service cooperative weather station to the study area is located approximately 7.5 miles southwest of the delineation study area at an elevation of 6,350 feet above mean sea level (Western Regional Climate Center 2006) (Figure 1). Climate data from this weather station are presented here as a reasonable approximation of the temperature, precipitation, and growing season length for the delineation study area.

The mean annual precipitation is 31.88 inches, the mean annual maximum temperature is 56.1°F, and the mean annual minimum temperature is 30.6°F (Western Regional Climate Center 2006). The length of the growing season (based on 28° air temperature thresholds at a frequency of five years in 10) is approximately 130 days and typically extends from late May to early October in most years (Western Regional Climate Center 2006).

2.2. Vegetation

The delineation study area consists primarily of ponderosa pine woodland and residential and commercial developments but also contains a riparian woodland corridor along Griff Creek and ruderal areas. These communities are described below.

Ponderosa Pine Woodland

Ponderosa pine woodland occurs in the majority of the study area amid residential and commercial development. This plant community is characterized by an overstory composed mainly of ponderosa pine with lesser amounts of Jeffrey pine, incense cedar, and white fir. The shrub understory consists of manzanita and mountain rose. The herbaceous layer is composed of a mixture of grasses and forbs, including squirreltail, thickspike wheatgrass, small oniongrass, common tansy, and Eaton's aster.

Riparian Woodland

The riparian woodland community that occurs in the delineation study area exists adjacent to Griff Creek and is characterized by an overstory of mountain alder, black cottonwood, and Pacific willow. Yellow willow, American dogwood, and thimbleberry comprise the shrub

Table 1. Project Site Parcels

Placer County Assessor's Parcel Number	Area within Delineation Study Area (Acres)
090-064-001	0.29
090-064-012	0.22
090-064-013	0.15
090-064-026	0.14
090-064-027	0.29
090-067-013	0.14
090-067-014	0.14
090-067-022	0.07
090-067-023	0.07
090-067-026	0.14
090-067-029	0.18
090-071-001	0.14
090-071-002	0.14
090-071-003	0.22
090-071-005	0.16
090-071-008	0.16
090-071-017	0.29
090-071-018	0.09
090-071-019	0.21
090-071-021	0.19
090-071-022	0.09
090-071-023	0.41
090-071-025	0.07
090-071-026	0.12
090-071-028	0.28
090-071-029	0.30
090-071-030	0.55
090-071-031	0.13
090-071-033	0.28
090-071-034	0.35
090-072-001	0.07
090-072-002	0.18
090-072-003	0.11
090-072-004	0.06
090-072-006	0.24
090-072-009	0.18
090-072-016	0.08
090-072-017	0.11
090-072-018	0.03
090-072-019	0.06
090-072-023	0.05
090-072-024	0.09
090-072-026	0.43
090-072-027	0.29
090-072-028	0.43
090-072-029	0.29
090-072-030	0.33
090-074-001	0.14
090-074-002	0.86
090-074-004	0.14
090-074-005	0.07
090-074-006	0.07
090-074-007	0.14
090-074-008	0.22
090-074-009	0.29
090-074-010	0.07
090-074-012	0.07
090-074-013	0.14
090-074-014	0.07

Table 1. Continued

Placer County Assessor's Parcel Number	Area within Delineation Study Area (Acres)
090-074-018	0.29
090-074-020	0.94
090-074-021	0.04
090-074-022	0.04
090-075-001	0.03
090-075-002	0.06
090-075-009	0.07
090-075-010	0.06
090-075-014	0.39
090-075-016	0.14
090-075-017	0.24
090-075-018	0.17
090-075-019	0.11
090-075-020	0.11
090-075-025	0.21
090-080-001	0.20
090-080-002	0.21
090-080-004	0.51
090-080-005	0.12
090-080-006	0.28
090-080-007	0.62
090-080-009	0.82
090-080-017	0.95
090-080-018	0.62
090-080-022	0.36
090-080-023	0.66
090-121-010	0.29
090-121-011	0.29
090-121-013	0.14
090-121-016	0.43
090-121-017	0.14
090-121-019	0.22
090-121-023	0.58
090-121-026	0.07
090-122-001	0.43
090-122-002	0.37
090-122-004	0.15
090-122-005	0.20
090-122-010	0.09
090-122-014	0.15
090-122-017	0.18
090-122-019	0.29
090-122-021	0.31
090-122-022	0.14
090-122-023	0.21
090-122-024	0.21
090-122-025	0.14
090-122-026	0.14
090-122-027	0.14
090-122-028	0.14
090-122-030	0.14
090-122-031	0.36
090-122-033	0.11
090-122-034	0.10
090-122-035	0.06
090-122-036	0.09
090-123-001	0.23
090-123-006	0.66

Table 1. Continued

Placer County Assessor's Parcel Number	Area within Delineation Study Area (Acres)
090-123-008	0.17
090-123-009	0.16
090-123-010	0.17
090-123-011	0.16
090-123-015	0.05
090-123-016	0.13
090-123-017	0.10
090-123-018	0.06
090-123-019	0.02
090-123-021	0.08
090-123-022	0.29
090-123-023	0.30
090-123-024	0.22
090-123-025	0.04
090-123-026	0.13
090-123-027	0.10
090-124-019	0.07
090-124-020	0.07
090-125-001	0.29
090-125-019	0.07
090-125-025	0.14
090-125-026	0.07
090-126-014	0.36
090-126-017	0.11
090-126-020	0.29
090-126-021	0.18
090-126-022	0.18
090-126-024	0.29
090-126-025	0.32
090-126-032	0.10
090-126-037	0.14
090-126-038	0.36
090-126-039	0.14
090-126-040	0.14
090-133-003	0.15
090-133-005	0.36
090-133-006	0.05
090-133-007	0.26
090-133-008	0.27
090-133-009	0.16
090-133-010	0.22
090-133-011	0.17
090-133-012	0.40
090-133-015	0.51
090-133-016	0.13
090-133-018	0.26
090-134-001	0.26
090-134-002	0.17
090-134-005	0.35
090-134-006	0.17
090-134-007	0.18
090-134-008	0.27
090-134-011	0.20
090-134-017	0.33
090-134-023	0.17
090-134-024	0.37
090-134-029	0.29
090-134-030	0.32

Table 1. Continued

Placer County Assessor's Parcel Number	Area within Delineation Study Area (Acres)
090-134-034	0.08
090-134-035	0.03
090-134-039	0.18
090-134-042	0.28
090-134-043	0.20
090-134-044	0.08
090-134-045	0.08
090-134-046	0.33
090-135-030	0.08
090-135-031	0.16
090-135-032	0.08
090-135-033	0.16
090-135-034	0.16
090-135-035	0.16
090-135-036	0.17
090-135-037	0.25
090-135-042	0.09
090-142-001	0.25
090-142-002	0.32
090-142-007	0.28
090-142-023	0.76
090-142-024	0.36
090-142-025	0.15
090-142-026	0.38
090-191-017	0.14
090-191-018	0.29
090-191-023	0.22
090-191-024	0.14
090-191-028	0.07
090-191-036	0.14
090-192-001	0.06
090-192-002	0.08
090-192-003	0.10
090-192-004	0.13
090-192-008	0.18
090-192-017	0.70
090-192-021	0.16
090-192-027	0.02
090-192-030	0.38
090-192-031	0.12
090-192-034	0.06
090-192-037	0.15
090-192-038	0.13
090-192-041	0.21
090-192-053	0.37
090-192-054	0.05
090-192-055	0.10
090-192-056	0.38
090-192-057	0.44
090-221-001	0.24
090-221-002	0.55
090-221-010	0.19
090-221-011	0.17
090-221-013	0.15
090-221-014	0.11
090-221-016	0.34
090-221-018	0.10
090-221-019	0.29

Table 1. Continued

Placer County Assessor's Parcel Number	Area within Delineation Study Area (Acres)
090-221-020	0.21
090-221-021	0.10
090-222-016	0.19
090-222-017	0.14
117-180-001	0.46
117-180-003	0.32
117-180-005	1.11
117-180-006	0.16
117-180-007	0.15
117-180-009	0.50
117-180-012	0.24
117-180-027	0.79
117-180-028	0.78
117-180-036	0.23
117-180-037	0.23
117-180-038	0.23
117-180-039	0.22
117-180-050	0.19
117-180-052	0.66*
117-180-048	0.66*
117-180-047	0.66*
117-180-046	0.66*
117-180-045	0.66*
117-180-044	0.66*
117-180-043	0.66*

* This number represents a collective acreage for these parcels. Individual parcel acreages were not available from Placer County's parcel information website <http://www.placer.ca.gov/Home/Assessor/Assessment%20Inquiry/Assessment%20Inquiry%20Iframe.aspx>.

understory, and the herbaceous layer contains long-anthered rush, mugwort, and small-fruited bulrush.

2.3. Ruderal Areas

Ruderal (i.e., disturbed) areas are located throughout the delineation study area. Ruderal areas primarily occur immediately adjacent to roads but also were observed adjacent to several of the sediment detention basins in the delineation study area. These areas typically consist of bare soil but may be vegetated with one to two species of annual grasses (i.e., quackgrass and thickspike wheatgrass).

2.4. Surface Hydrology

Griff Creek, a perennial stream that drains much of the area in and around the City of Kings Beach, originates approximately 1 mile east of Martis Peak and flows south through the western portion of the delineation study area, where it crosses under SR 28 and discharges into Lake Tahoe (Exhibit A). Other than Griff Creek, no other major drainages occur in the delineation study area, but a number of manmade, intermittent drainage ditches convey local snowmelt and stormwater runoff to Lake Tahoe via a stormwater collection system.

2.5. Soils

Soils in the delineation study area were mapped by the U.S. Soil Conservation Service during their survey of soils in the Lake Tahoe Basin (Rogers 1974). A total of four soil map units occur within the boundaries of the delineation study area (Figure 2). The general characteristics of the soils that occur within these map units are summarized in Table 2. Of the four soil map units that occur within the delineation study area, only the Beaches map unit is known to contain hydric inclusions (Natural Resources Conservation Service 1992).

Table 2. Soil Map Units in the Study Area

Soil Map Unit		Drainage	Hydric Soils[a]	Hydric Criteria[b]
Symbol[a]	Name			
JhC	Jabu stony sandy loam, moderately fine subsoil, variant, 2% to 9% slopes	Well drained	No hydric components or inclusions	N/A
Be	Beaches	Well drained	Watah (inclusion) Marla (inclusion) Tahoe, silt loam (inclusion)	4 2B3 2B2
Gr	Gravelly alluvial land	Somewhat poorly drained to poorly drained	No hydric components or inclusions	N/A
UmD	Umpa very stony sandy loam, 5% to 15% slopes	Well drained	No hydric components or inclusions	N/A

Notes:

[a] Sources: Rogers 1974; Natural Resources Conservation Service 1992.

[b] The hydric soil criteria are defined as (from Natural Resources Conservation Service 1992):

Hydric Criteria 2B2, 2B3, and 4:

2. Soils in Aquic suborders, Aquic subgroups, Albolls suborder, Salorthids great group, Pell great groups of Vertisols, Pachic subgroups, or Cumulic subgroups that are:
   - B. poorly drained or very poorly drained and have:
     - 2) a frequently occurring water table at less than 0.5 feet from the surface for a significant period (usually more than 2 weeks) during the growing season if permeability is equal to or greater than 6.0 in/hr in any layer within 20 inches.
     - 3) a frequently occurring water table at less than 1.0 feet from the surface for a significant period (usually more than 2 weeks) during the growing season if permeability is less than 6.0 in/hr in any layer within 20 inches.
4. Soils that are frequently flooded for long duration or very long duration during the growing season.

3. Methods

The following information was reviewed for this delineation:

- Kings Beach USGS 7.5-minute topographic map;
- aerial photographs of the delineation study area (flown by Majors in October 1999);
- soil survey of the Tahoe Basin (Rogers 1974);
- wetland delineation reports for portions of the delineation study area completed by Harding ESE (2001) and Mactec Engineering and Consulting (2003, 2006).

On September 19 and 20, 2006, a Jones & Stokes botanist/wetland ecologist and a soil scientist delineated wetlands and other waters of the United States located within the boundaries of the delineation study area. The delineation was conducted in accordance with the routine onsite determination method described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and in compliance with the Sacramento District of the Corps' *Minimum Standards for Acceptance of Preliminary Wetland Delineations* (U.S. Army Corps of Engineers 2001). Vegetation, soil, and hydrology data collected at eight data points during the delineation were recorded on wetland determination data sheets, which are located in Appendix A.

The scientific names of plants observed during the delineation or mentioned in the text, as well as their wetland indicator status, are provided in Appendix B. Scientific names follow *The Jepson Manual* (Hickman 1993), as updated by the Jepson Online Interchange, an online database maintained by the University of California and the Jepson Herbaria. The wetland indicator status of each species listed was obtained from Reed (1988).

A resource-grade global positioning system (GPS) unit was used to record the location of jurisdictional boundaries, data points, and other pertinent features wherever possible. The GPS data were downloaded and corrected in the office using the nearest available base-station data. The acreage of each feature was calculated in the ArcGIS program. Data were subsequently overlaid onto the aerial photo base to prepare the delineation map.

4. Results

A total of 0.719 acre of waters of the United States, consisting of 0.329 acre of wetlands and 0.390 acre of other waters of the United States, were identified within the boundaries of the delineation study area (Table 3). Intermittent drainage ditches also were observed in the delineation study area but were interpreted to be outside the scope of Corps jurisdiction under Section 404 of the CWA. The general characteristics and interpreted jurisdictional status of each feature mapped within the delineation study area are described below. Representative photographs of the wetlands and other waters observed within the delineation study area are located in Appendix C.

Table 3. Wetlands and Other Waters of the United States Found in the Delineation Study Area

Feature Type	Acres
Depressional Wetlands	0.329
Perennial Stream (Griff Creek)	0.204
Lake Tahoe	0.186
Total	**0.719**

4.1. Wetlands

Depressional Wetlands

A total of seven depressional wetlands were found within the boundaries of the delineation study area (Exhibit A). Five of these wetlands (DW-1 to DW-5) are sediment detention basins that receive most of their hydrologic inputs from drainage ditches and that drain via corrugated metal standpipe drains. The sixth depressional wetland (DW-6) is a roadside depression that retains enough water, primarily in the form of surface runoff, to support hydrophytic vegetation. The seventh depressional wetland (DW-7) is located immediately adjacent to Lake Tahoe and receives water primarily via a culvert at its north end.

Hydrophytic plant species commonly observed in the depressional wetlands were big-leaf sedge, fewflower spikerush, American bulrush, Baltic rush, iris-leaved rush, long-anthered rush, yellow willow, and Mexican rush.

Depressional wetlands in the delineation study area were interpreted to have wetland hydrology based on observed drainage patterns and the presence of saturated soil. The soils observed in these depressional wetlands were determined to be hydric based on a low-chroma matrix ($\leq$1) or, in areas where the soil had been disturbed recently, the presence of obligate hydrophytes and primary indicators of wetland hydrology (Appendix A, data sheets DP-1, DP-3, DP-5, and DP-7).

Wetland Boundaries and Jurisdictional Status

All of the depressional wetlands mapped within the study area support hydrophytic vegetation, contain hydric soils, and exhibit a positive indicator of wetland hydrology (Appendix A, data sheets DP-1, DP-3, DP-5, and DP-7). Accordingly, they all meet the definition of a wetland as described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratories 1987). Surrounding upland areas lack positive indicators of one or more of these parameters (Appendix A, data sheets DP-2, DP-4, DP-6, and DP-8).

Water that spills out of the sediment detention basins (DW-1 to DW-5) enters the stormwater collection system and appears to end up in Lake Tahoe, a navigable water of the United States. When water overflows from DW-6, it appears to flow into Griff Creek. DW-7 is located on the shore of the lake, so when it overflows, the water spills directly into Lake Tahoe.

Based on these apparent hydrologic connections to Lake Tahoe, it is concluded that all of the depressional wetlands in the delineation study area are within the scope of Corps jurisdiction under Section 404 of the CWA.

4.2. Other Waters of the United States

Perennial Stream

Griff Creek is a perennial stream that begins approximately 1 mile east of Martis Peak and flows south through the western portion of the delineation study area (Exhibit A). The jurisdictional width (i.e., the distance between opposing ordinary high water marks [OHWMs]) of the reach that flows through the delineation study area ranges from 3 to 30 feet (Exhibit A). The OHWM was identified based on the geomorphic characteristics of the stream channel (namely shelving). The reach supports a narrow band of riparian trees and shrubs that are primarily located above the OHWM.

Jurisdictional Status

Griff Creek is hydrologically connected to Lake Tahoe, a navigable water of the United States. As such, it is concluded that Griff Creek falls within the scope of Corps jurisdiction under Section 404 of the CWA.

Lake Tahoe

Lake Tahoe is a navigable water of the United States and falls within the scope of Corps jurisdiction under Section 404 of the CWA. In the absence of adjacent wetlands, the limit of Corps jurisdiction over Lake Tahoe is the OHWM, which was has been set at an elevation of 6,229.10 feet above mean sea level by the Corps' Sacramento District (U.S. Army Corps of Engineers 2005). Using this OHWM elevation, Jones & Stokes calculated that the project area includes 0.186 acre of jurisdictional Lake Tahoe (Exhibit A).

Nonjurisdictional Drainage Ditches

A number of manmade drainage ditches were observed within the boundaries of the delineation study area (Exhibit A). The ditches appear to flow intermittently during periods of snowmelt and intense rainfall and are either unvegetated or are vegetated with upland grasses such as squirreltail, quackgrass, thickspike wheatgrass, and tall oatgrass. Although water conveyed by these drainage ditches appears to discharge into Lake Tahoe via an underground stormwater collection system, they appear to have been excavated in uplands for drainage purposes and do not appear to have replaced any previously existing natural stream features. As such, it is concluded that these intermittent drainage ditches are outside the scope of Corps jurisdiction under Section 404 of the CWA.

5. References Cited

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3,100 1,550 0 3,100
Feet

Base Map: Kings Beach and Tahoe City
USGS 7.5' series topographic quadrangles

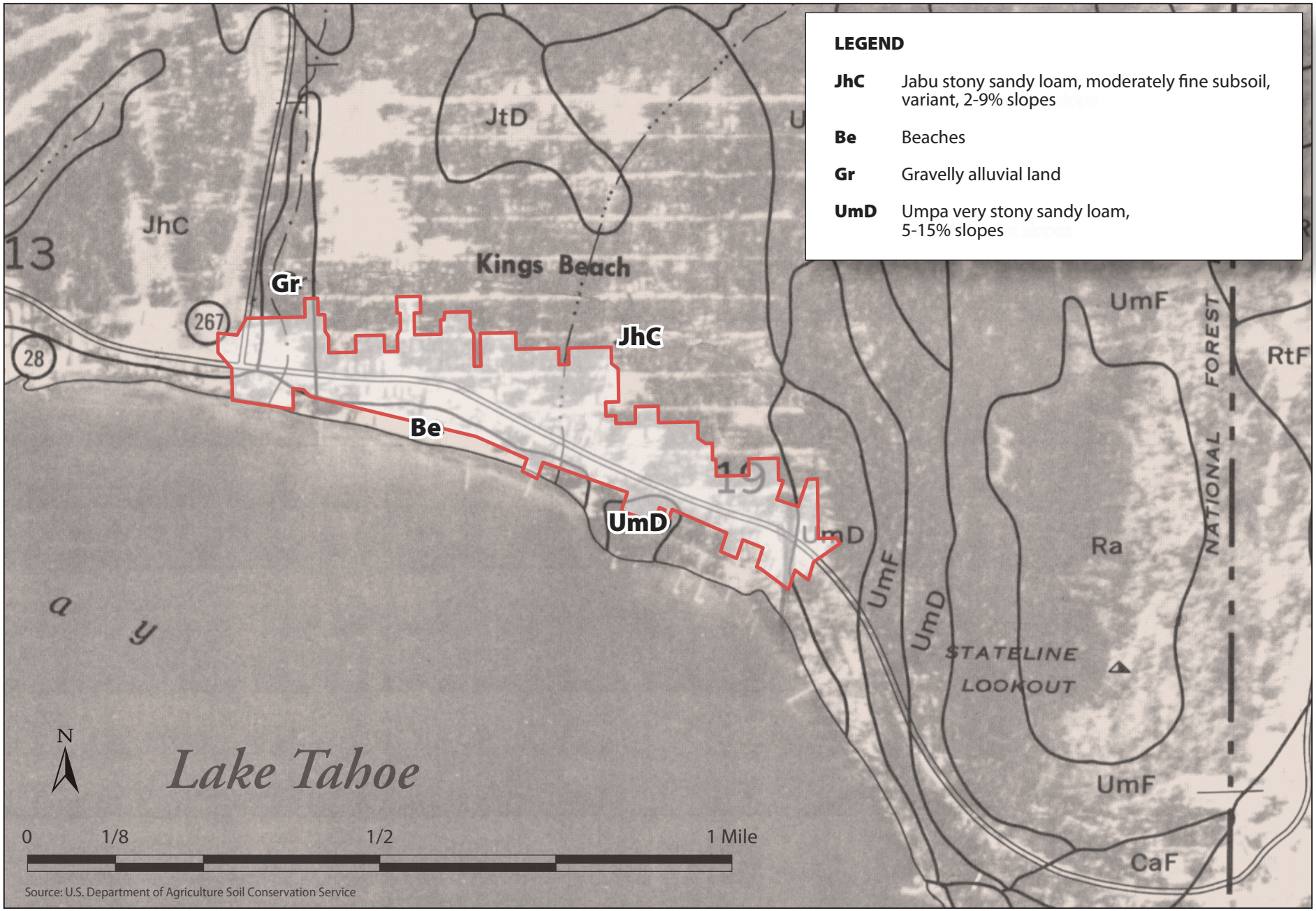
Delineation Study Area

Tahoe
Weather Station

S:\GIS\PROJECTS\COUNTY OF PLACER\06676.06\MAPDOC\FIGURE_1_LOCATION.MXD LD (10-20-06)

Jones & Stokes

Figure 1
Project Location



Jones & Stokes

Figure 2
Soils Survey Map

Exhibit A Preliminary Delineation of Wetlands and Other Waters of the United States

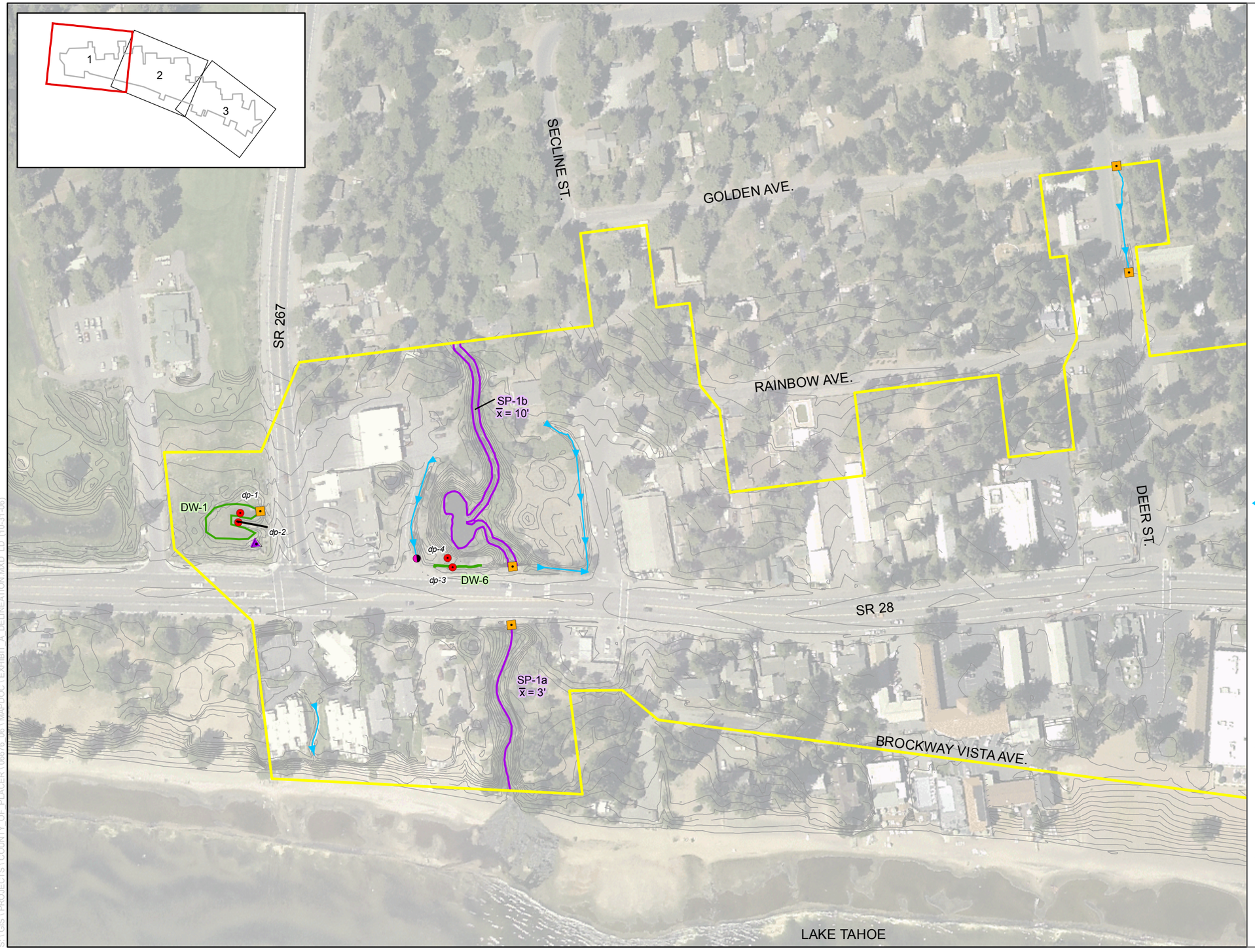


EXHIBIT A

PRELIMINARY DELINEATION OF WETLANDS
AND OTHER WATERS OF THE UNITED STATES
KINGS BEACH COMMERCIAL CORE
IMPROVEMENT PROJECT
PLACER COUNTY, CALIFORNIA

OCTOBER 2006

WETLANDS	AREA (ACRES)
DEPRESSIONAL WETLAND	0.329
DW-1	0.067
DW-2	0.099
DW-3	0.092
DW-4	0.066
DW-5	0.002
DW-6	0.002
DW-7	0.001

OTHER WATERS OF THE U.S.	
PERENNIAL STREAM (GRIFF CREEK).	0.204
SP-1a	0.059
SP-1b	0.145
LAKE TAHOE (based on OHWM of 1898.629 m NGVD)	0.186

WETLANDS TOTAL	0.329
OTHER WATERS TOTAL	0.390
TOTAL WATERS MAPPED	0.719

- NON-JURISDICTIONAL INTERMITTENT DRAINAGE DITCH
- WETLAND FEATURE OUTSIDE OF DELINEATION AREA
- DATA POINT
- DETENTION BASIN DRAIN
- CULVERT
- STORM DRAIN INLET
- DELINEATION AREA BOUNDARY

DELINEATION AREA (ACRES) 74.78

Aerial Photo Source: Majors, October 1999

150 75 0 150
Feet

DELINEATED BY: C. VOIGT & J. COOK	SEPTEMBER 2006
DRAWN BY: L. DOUGLAS	SEPTEMBER 2006
VERIFIED BY: TBD	TBD
U.S. ARMY CORPS OF ENGINEERS REGULATORY FILE #: TBD	

REVISION	BY	DATE

Prepared By:

Jones & Stokes
2600 V St.
Sacramento, CA 95818
Contact: Scott Frazier
(916) 737-3000

Prepared For:

Placer County Department of Public Works
Pioneer Commerce Center
10825 Pioneer Trail, Suite 105
Truckee, CA 96161
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Phone: (530) 889-7615 and (530) 581-6231

S:\GIS\PROJECTS\COUNTY_OF_PLACER\06676_06\MAPDOC\EXHIBIT_A_DELINEATION.MXD LD (10-31-06)

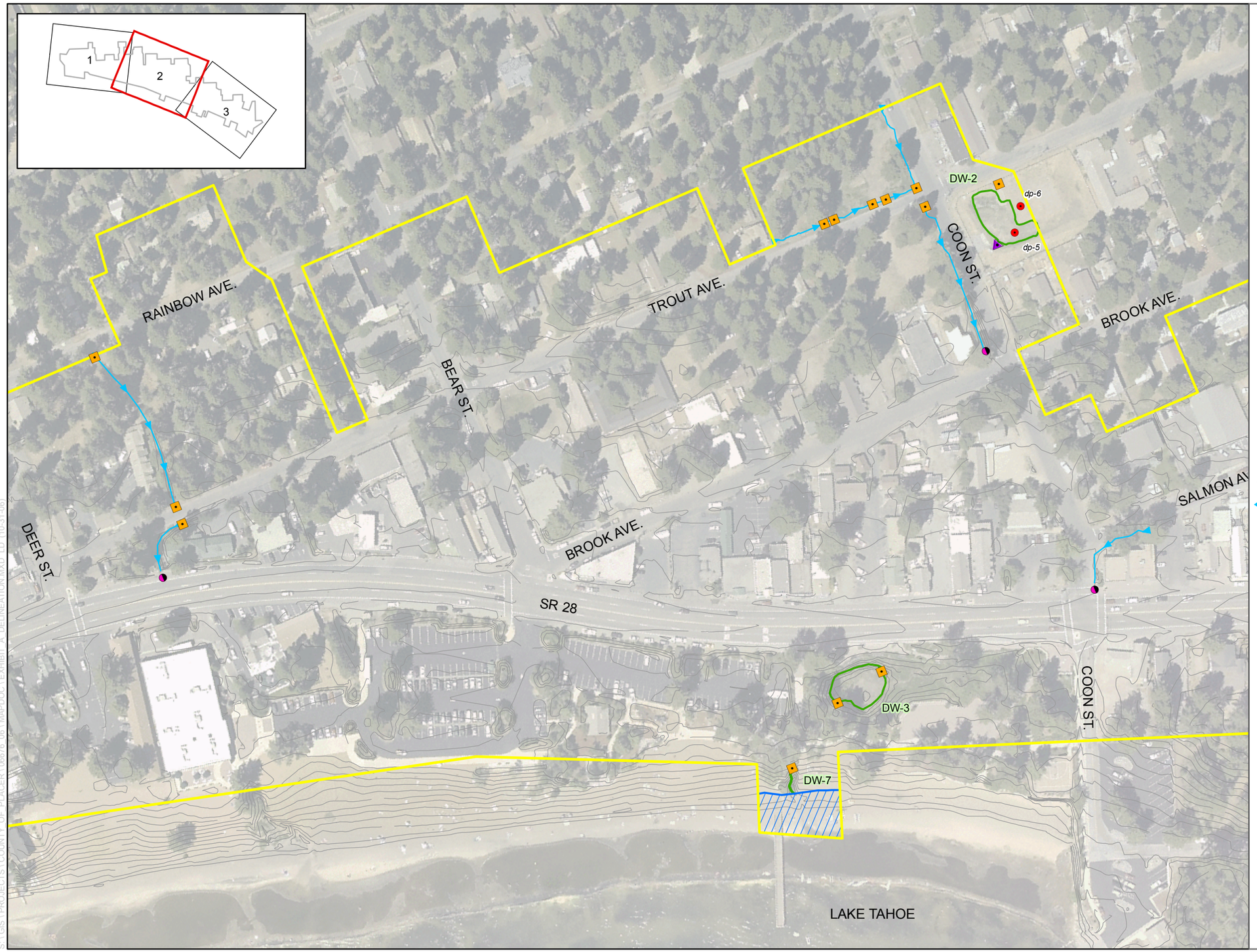

EXHIBIT A

PRELIMINARY DELINEATION OF WETLANDS
AND OTHER WATERS OF THE UNITED STATES
KINGS BEACH COMMERCIAL CORE
IMPROVEMENT PROJECT
PLACER COUNTY, CALIFORNIA

OCTOBER 2006

WETLANDS	AREA (ACRES)
DEPRESSIONAL WETLAND	0.329
DW-1	0.067
DW-2	0.099
DW-3	0.092
DW-4	0.066
DW-5	0.002
DW-6	0.002
DW-7	0.001

OTHER WATERS OF THE U.S.	
PERENNIAL STREAM (GRIFF CREEK)	0.204
SP-1a	0.059
SP-1b	0.145
LAKE TAHOE (based on OHWM of 1898.629 m NGVD)	0.186

WETLANDS TOTAL	0.329
OTHER WATERS TOTAL	0.390
TOTAL WATERS MAPPED	0.719

NON-JURISDICTIONAL INTERMITTENT DRAINAGE DITCH

WETLAND FEATURE OUTSIDE OF DELINEATION AREA

DATA POINT

DETENTION BASIN DRAIN

CULVERT

STORM DRAIN INLET

DELINEATION AREA BOUNDARY

DELINEATION AREA (ACRES) 74.78

Aerial Photo Source: Majors, October 1999

150 75 0 150
Feet

DELINEATED BY: C. VOIGT & J. COOK	SEPTEMBER 2006
DRAWN BY: L. DOUGLAS	SEPTEMBER 2006
VERIFIED BY: TBD	TBD
U.S. ARMY CORPS OF ENGINEERS REGULATORY FILE #: TBD	

REVISION	BY	DATE

Prepared By:
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2600 V St.
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(916) 737-3000

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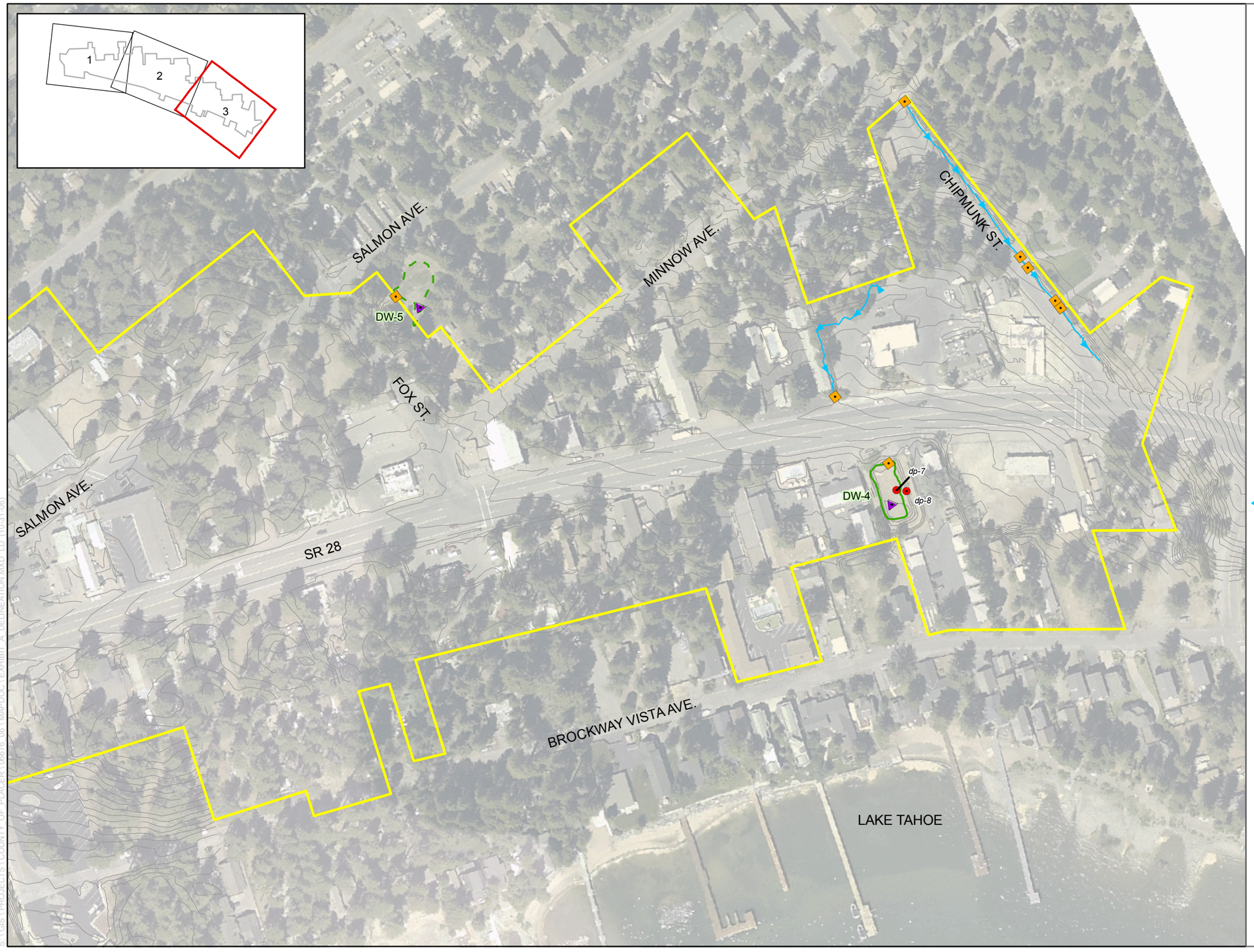

EXHIBIT A

PRELIMINARY DELINEATION OF WETLANDS
AND OTHER WATERS OF THE UNITED STATES
KINGS BEACH COMMERCIAL CORE
IMPROVEMENT PROJECT
PLACER COUNTY, CALIFORNIA

OCTOBER 2006

WETLANDS	AREA (ACRES)
DEPRESSIONAL WETLAND	0.329
DW-1	0.067
DW-2	0.099
DW-3	0.092
DW-4	0.066
DW-5	0.002
DW-6	0.002
DW-7	0.001

OTHER WATERS OF THE U.S.	
PERENNIAL STREAM (GRIFF CREEK).	0.204
SP-1a	0.059
SP-1b	0.145
LAKE TAHOE (based on OHWM of 1898.629 m NGVD)	0.186

WETLANDS TOTAL	0.329
OTHER WATERS TOTAL	0.390
TOTAL WATERS MAPPED	0.719

NON-JURISDICTIONAL INTERMITTENT DRAINAGE DITCH

WETLAND FEATURE OUTSIDE OF DELINEATION AREA

DATA POINT

DETENTION BASIN DRAIN

CULVERT

STORM DRAIN INLET

DELINEATION AREA BOUNDARY

DELINEATION AREA (ACRES) 74.78

Aerial Photo Source: Majors, October 1999

150 75 0 150
Feet

DELINEATED BY: C. VOIGT & J. COOK	SEPTEMBER 2006
DRAWN BY: L. DOUGLAS	SEPTEMBER 2006
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Appendix A Data Sheets

Jones & Stokes

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site:	Kings Beach Commercial Core Improvement Project	State:	California
Applicant/Owner:	Placer County Department of Public Works	County:	Placer
Investigator(s):	C. Voigt, J. Cook	S/T/R	13/16N/17E
Date:	09/19/06		

Do normal circumstances exist on the site?	☑ YES	☐ NO	Community ID:	Depressional Wetland
Is the site significantly disturbed (atypical situation)?	☐ YES	☑ NO	Transect ID:	DW-1
Is the area a potential problem area?	☐ YES	☑ NO	Plot ID:	DP-1
(If needed, explain below)				

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
Juncus xiphioides	H	50	OBL				
Carex amplifolia	H	50	OBL				

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100% Total vegetation cover 90 %

- ☐ Morphological Adaptations
- ☐ Physiological/Reproductive Adaptations
- ☐ Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation
- ☐ Personal Knowledge of Regional Plant Communities
- ☐ Technical Literature
- ☐ Other (explain below)

Hydrophytic Vegetation Present? ☑ YES ☐ NO

Remarks:

HYDROLOGY

Is it the growing season? ☐ YES ☑ NO

Based On:
- ☐ Soil Temp (record)
- ☑ Other (explain) — data from WRCC (2006)

Typical length: 130 Days 5% = 6.5 days

Recorded Data (describe below):
- ☐ Stream, Lake, or Tide Gauge
- ☑ Aerial Photographs
- ☐ Other
- ☐ None Available

Field Observations:

Depth of Surface Water:	none	inches
Depth to Standing Water in Pit:	>12	inches
Depth to Saturated Soil:	>12	inches

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☑ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Rhizospheres in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (explain below)

Wetland Hydrology Present? ☑ YES ☐ NO

Remarks:

The soil was wet throughout but not saturated, likely as the result of recent sprinkler irrigation.

SOILS

Plot ID: DP-1

Map Unit Name (series and phase): Jabu stony sandy loam, mod. fine subsoil, variant, 2-9% slopes Drainage Class: Well-drained

Taxonomy (subgroup): Ultic Haploxeralfs Field observations confirm mapped type? ☐ YES ☑ NO

Is data point located within a hydric inclusion? ☐ YES ☑ NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features: Abundance, Size, Contrast	Redoximorphic Features: Type, location	Redoximorphic Features: Color (moist)	Other
	0-1	sil		10YR 3/2	none	---	---	
	1-10	sl		10YR 3/4	none	---	---	
	10-12	xgrsl		10YR 3/4-4/1	none	---	---	***

Hydric Soil Indicators (check all that apply):

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions (α,α' dipyridyl test)
- ☑ Gleyed or Low-Chroma (≤1) matrix
- ☐ Matrix Chroma ≤2 with Redoximorphic Concentrations and/or Depletions
- ☐ Mn or Fe Concretions or Nodules
- ☐ High Organic Content in Surface Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on National/Local Hydric Soils List
- ☐ Other (explain below)

Hydric Soils Present? ☑ YES ☐ NO

Remarks:

Shovel refusal was experienced at a depth of 12" due to the extremely gravelly soil. ***The soil horizon observed from 10-12" was a variegated matrix consisting of approximately 50% 10YR 3/4 extremely gravelly sandy loam and approximately 50% 10YR 4/1 extremely gravelly sandy loam. As mentioned under 'Hydrology', soil was wet throughout but not saturated.

WETLAND DETERMINATION :

Hydrophytic vegetation present? ☑ YES ☐ NO

Wetland hydrology present? ☑ YES ☐ NO

Hydric soils present? ☑ YES ☐ NO Is the sampling point within a wetland? ☑ YES ☐ NO

Remarks:

Data point is located within a sediment detention basin.

Texture and Rock Fragment Content

Texture

cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c - clay

Rock Fragments

gr - gravelly
vgr - very gravelly
xgr - extremely gravelly
cb - cobbly
vcb - very cobbly
xcb - extremely cobbly
st - stony
vst - very stony
xst - extremely stony

Redoximorphic Feature Morphology

Abundance

f - few
c - common
m - many

Size

1 - fine (<2mm)
2 - medium 2–5mm)
3 - coarse (5–20mm)
4 - very coarse (20–76mm)
5 - extremely coarse (>76mm)

Contrast

f - faint
d - distinct
p - prominent

Type

Fe-x - iron concentration (soft mass)
Fe-nc - iron nodule or concretion
Mn-x - manganese concentration (soft mass)
Mn-nc - manganese nodule or concretion
d - depletion

Location

mat - soil matrix
ped - ped surface
por - soil pores
otr - other

Jones & Stokes

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site:	Kings Beach Commercial Core Improvement Project	State:	California
Applicant/Owner:	Placer County Department of Public Works	County:	Placer
Investigator(s):	C. Voigt, J. Cook	S/T/R	13/16N/17E
Date:	09/19/06		
Do normal circumstances exist on the site?	☑ YES ☐ NO	Community ID:	Grassland
Is the site significantly disturbed (atypical situation)?	☐ YES ☑ NO	Transect ID:	DW-1
Is the area a potential problem area?	☐ YES ☑ NO	Plot ID:	DP-2
(If needed, explain below)			

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
Populus tremuloides	T	40	FAC+				
Cornus sericea	S	20	FACW				
Lupinus latifolius	H	20	NL				
Alnus incana ssp. tenuifolia	T	20	NI				

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 50%

Total vegetation cover 75 %

- ☐ Morphological Adaptations
- ☐ Physiological/Reproductive Adaptations
- ☐ Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation
- ☐ Personal Knowledge of Regional Plant Communities
- ☐ Technical Literature
- ☐ Other (explain below)

Hydrophytic Vegetation Present? ☐ YES ☑ NO

Remarks:

HYDROLOGY

Is it the growing season? ☐ YES ☑ NO

Based On:
- ☐ Soil Temp (record)
- ☑ Other (explain) data from WRCC (2006)

Typical length: 130 Days 5% = 6.5 days

Recorded Data (describe below):
- ☐ Stream, Lake, or Tide Gauge
- ☑ Aerial Photographs
- ☐ Other
- ☐ None Available

Field Observations:

Depth of Surface Water:	none	inches
Depth to Standing Water in Pit:	>12	inches
Depth to Saturated Soil:	>12	inches

Wetland Hydrology Indicators:

Primary Indicators:
- ☐ Inundated
- ☐ Saturated Upper 12 Inches
- ☐ Water Marks
- ☐ Drift Lines
- ☐ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☐ Oxidized Rhizospheres in Upper 12 Inches
- ☐ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☐ FAC-Neutral Test
- ☐ Other (explain below)

Wetland Hydrology Present? ☐ YES ☑ NO

Remarks:

SOILS

Plot ID: DP-2

Map Unit Name (series and phase): Jabu stony sandy loam, mod. fine subsoil, variant, 2-9% slopes Drainage Class: Well-drained

Taxonomy (subgroup): Ultic Haploxeralfs Field observations confirm mapped type? ☑ YES ☐ NO

Is data point located within a hydric inclusion? ☐ YES ☑ NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features: Abundance, Size, Contrast	Redoximorphic Features: Type, location	Redoximorphic Features: Color (moist)	Other
	0-12	sl		10YR 3/3	none	---	---	

Hydric Soil Indicators (check all that apply):

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions (α,α'- dipyridyl test)
- ☐ Gleyed or Low-Chroma (≤1) matrix
- ☐ Matrix Chroma ≤2 with Redoximorphic Concentrations and/or Depletions
- ☐ Mn or Fe Concretions or Nodules
- ☐ High Organic Content in Surface Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on National/Local Hydric Soils List
- ☑ Other (explain below)

Hydric Soils Present? ☐ YES ☑ NO

Remarks:

Shovel refusal at a depth of 12" due to cobbles.

WETLAND DETERMINATION :

Hydrophytic vegetation present? ☐ YES ☑ NO

Wetland hydrology present? ☐ YES ☑ NO

Hydric soils present? ☐ YES ☑ NO Is the sampling point within a wetland? ☐ YES ☑ NO

Remarks:

Data point is located on a narrow mound that extends into the sediment detention basin.

Texture and Rock Fragment Content

Texture

cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
sil - silt loam
si - silt
scl - sandy clay loam
cl - clay loam
sicl - silty clay loam
sc - sandy clay
sic - silty clay
c - clay

Rock Fragments

gr - gravelly
vgr - very gravelly
xgr - extremely gravelly
cb - cobbly
vcb - very cobbly
xcb - extremely cobbly
st - stony
vst - very stony
xst - extremely stony

Redoximorphic Feature Morphology

Abundance

f - few
c - common
m - many

Size

1 - fine (<2mm)
2 - medium 2–5mm)
3 - coarse (5–20mm)
4 - very coarse (20–76mm)
5 - extremely coarse (>76mm)

Contrast

f - faint
d - distinct
p - prominent

Type

Fe-x - iron concentration (soft mass)
Fe-nc - iron nodule or concretion
Mn-x - manganese concentration (soft mass)
Mn-nc - manganese nodule or concretion
d - depletion

Location

mat - soil matrix
ped - ped surface
por - soil pores
otr - other

Jones & Stokes

DATA FORM
ROUTINE WETLAND DETERMINATION

Project/Site:	Kings Beach Commercial Core Improvement Project	State:	California
Applicant/Owner:	Placer County Department of Public Works	County:	Placer
Investigator(s):	C. Voigt, J. Cook	S/T/R	19/16N/18E
Date:	09/19/06		

Do normal circumstances exist on the site?	☑ YES	☐ NO	Community ID:	Depressional Wetland
Is the site significantly disturbed (atypical situation)?	☐ YES	☑ NO	Transect ID:	DW-6
Is the area a potential problem area?	☐ YES	☑ NO	Plot ID:	DP-3
(If needed, explain below)				

VEGETATION

Dominant Plant Species	Strata	% Rel. Cover	Indicator	Associate Plant Species	Strata	% Rel. Cover	Indicator
Juncus mexicanus	H	75	FACW	*Tanacetum vulgare*	H	5	NL
Carex amplifolia	H	20	OBL				

Percent of dominants that are OBL, FACW, or FAC (excluding FAC-): 100%

Total vegetation cover 75 %

☐ Morphological Adaptations
☐ Physiological/Reproductive Adaptations
☐ Visual Observation of Plant Species Growing in Areas of Prolonged Inundation/Saturation
☐ Personal Knowledge of Regional Plant Communities
☐ Technical Literature
☐ Other (explain below)

Hydrophytic Vegetation Present? ☑ YES ☐ NO

Remarks:

HYDROLOGY

Is it the growing season? ☐ YES ☑ NO

Based On:
☐ Soil Temp (record)
☑ Other (explain) data from WRCC (2006)

Typical length: 130 Days 5% = 6.5 days

Recorded Data (describe below):
☐ Stream, Lake, or Tide Gauge
☑ Aerial Photographs
☐ Other
☐ None Available

Field Observations:
Depth of Surface Water: none inches
Depth to Standing Water in Pit: >13 inches
Depth to Saturated Soil: >13 inches

Wetland Hydrology Indicators:

Primary Indicators:
☐ Inundated
☐ Saturated Upper 12 Inches
☐ Water Marks
☐ Drift Lines
☐ Sediment Deposits
☑ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
☐ Oxidized Rhizospheres in Upper 12 Inches
☐ Water-Stained Leaves
☐ Local Soil Survey Data
☐ FAC-Neutral Test
☐ Other (explain below)

Wetland Hydrology Present? ☑ YES ☐ NO

Remarks:

Manmade bank of cobbles is present along the north side of the roadside drainage ditch but on the south side of the ditch (closest to the road) the bank is less well defined.

SOILS

Plot ID: DP-3

Map Unit Name (series and phase): Jabu stony sandy loam, mod. fine subsoil, variant, 2-9% slopes Drainage Class: Well-drained

Taxonomy (subgroup): Ultic Haploxeralfs Field observations confirm mapped type? ☐ YES ☑ NO

Is data point located within a hydric inclusion? ☐ YES ☑ NO

Profile Description

Horizon	Depth (inches)	Texture	Structure	Matrix Color (moist)	Redoximorphic Features: Abundance, Size, Contrast	Redoximorphic Features: Type, location	Redoximorphic Features: Color (moist)	Other
	0-13	sl		10YR 3/1	none	---	---	

Hydric Soil Indicators (check all that apply):

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions (α, α' dipyridyl test)
- ☑ Gleyed or Low-Chroma (≤1) matrix
- ☐ Matrix Chroma ≤2 with Redoximorphic Concentrations and/or Depletions
- ☐ Mn or Fe Concretions or Nodules
- ☐ High Organic Content in Surface Layer of Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on National/Local Hydric Soils List
- ☐ Other (explain below)

Hydric Soils Present? ☑ YES ☐ NO

Remarks:

Shovel refusal at a depth of 13" due to the presence of cobbles.

WETLAND DETERMINATION :

Hydrophytic vegetation present? ☑ YES ☐ NO

Wetland hydrology present? ☑ YES ☐ NO

Hydric soils present? ☑ YES ☐ NO Is the sampling point within a wetland? ☑ YES ☐ NO

Remarks:

Data point is located within a roadside depression that was dry at the time of sampling but contained hydrophytic vegetation, which suggests that inundation is present for sufficient duration during the course of the year to support such vegetation.

Texture and Rock Fragment Content

Texture

cos - coarse sand
s - sand
fs - fine sand
vfs - very fine sand
lcos - loamy coarse sand
ls - loamy sand
lfs - loamy fine sand
lvfs - loamy very fine sand
cosl - coarse sandy loam
sl - sandy loam
fsl - fine sandy loam
vfsl - very fine sandy loam
l - loam
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Redoximorphic Feature Morphology

Abundance

f - few
c - common
m - many

Size

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Contrast

f - faint
d - distinct
p - prominent

Type

Fe-x - iron concentration (soft mass)
Fe-nc - iron nodule or concretion
Mn-x - manganese concentration (soft mass)
Mn-nc - manganese nodule or concretion
d - depletion

Location

mat - soil matrix
ped - ped surface
por - soil pores
otr - other